Abstract of Poster Presentation

Genetic diversity of *Xanthomonas* species pathogenic to citrus based on *avr* and *leucine rich protein* genes

J. Fabrício José (1), E. Cristina Martins (2), M. Inês T. Ferro (3), C. Vérniére (4), O. Pruvost (4), J. BELASQUE JR. (2)
(1) Department of Technology, Universidade Estadual Paulista, Jaboticabal, São Paulo, Brazil; (2) Fundecitrus, Araraquara, São Paulo, Brazil; (3) Universidade Estadual Paulista, Jaboticabal, São Paulo, Brazil; (4) Pôle de Protection dês Plantes, CIRAD, Reunion Island, France
Presenter's E-mail: belasque@fundecitrus.com.br

The genus *Xanthomonas* includes a group of phytopathogenic bacteria that have great economic importance around the world. Citrus canker, caused by *Xanthomonas citri* subsp. *citri*, is one of the main threats to citrus crops worldwide. Different forms of citrus canker have been described based on pathogen specificity and geographical origin, and are caused by other two *Xanthomonas* species: *X. alfalfae* subsp. *citrumelonis* and *X. fuscans* subsp. *aurantifolii*. In the present work we developed DNA primers and probes based on pathogenicity genes in order to study the genetic diversity of these three *Xanthomonas* species, specially a Brazilian population of *citri* strains. The presence of *avrXacE1*, *avrXacE2*, *avrXacE3* and *leucine rich protein* (*lrp*) genes were observed in almost all *citri* and *aurantifolii* strains, but *avrXacE2* an *avrXacE3* genes were absent in *citrumelonis* strains. The profiles generated by PCR-RFLP of the avr genes did not display any polymorphism after agarose gel electrophoresis. However the use of *avr* genes as Southern blot probes proved to be effective to differentiate *Xanthomonas* species pathogenic on citrus and to identify polymorphisms between strains belonging to the same species from Brazil. With the exception of the probe corresponding to *lrp* gene, the number of haplotypes identified (22) varied according to the gene/endonuclease used on Southern blot. The strains of subspecies *citri* possess a higher number of copies of the *avr* genes than subspecies *aurantifolii* and *citrumelonis*. Relatively high genetic diversity was observed in *citri* and *aurantifolii* Brazilian populations, independently of the citrus canker control method applied in the area of origin of the strains.